

## Introduction

Instrumentation cable is used extensively by the petrochemical, pulp and paper and other process industries. It is designed to minimize noise and signal interference to deliver clean signals in harsh environments and general manufacturing operations.

Designed for use in wet or dry locations, Instrumentation cable has a maximum conductor temperature of 90°C and a low temperature rating of -40°C. The cable jacket is resistant to sunlight, moisture and vapor penetration. It is also an economical alternative as the need for conduits and pull boxes is eliminated.



## Applications

Instrumentation cable can be used in a broad range of applications, especially where the cable may be subjected to mechanical damage and corrosive chemicals. Instrumentation cables can be used in raceways and direct burial applications and can be supported by messenger wire in aerial or outdoor applications.

Primarily used for control applications, Instrumentation cable is recommended where optimal noise rejection is required. Instrumentation cable is available in individually shielded pairs or triads with an overall shield construction. The pairs or triads are isolated from each other and contain separate drain wires for grounding to provide maximum protection from crosstalk and common mode interference. It is also available in aluminum or steel interlocked armour (for mechanical protection), in 300V and 600V.

## Specifications

- CSA C22.2 No. 239:
  - Type CIC (Control and Instrumentation Cable)
  - Type ACIC (Armoured Control and Instrumentation Cable)
- CSA C22.2 No. 174, hazardous locations (HL), armoured cables only:
  - Class 1 Zone 1 (Division 1) & Zone 2 (Division 2)
  - Class II Division 1 & 2
- CSA 22.2 No. 75, Thermoplastic (PVC) Insulated Conductors
- CSA C22.2 No. 38, Thermoplastic (XLPE) Insulated Conductors
- CSA FT4 (Vertical Tray Flame Test)
- Fire Retardant Low Acid PVC
- Sunlight Resistant
- -40°C to +90°C (Dry), 75°C (Wet)

### CAUTION NOTICE

In case of fire, well maintained early warning smoke detectors will give an alarm long before non-metallic coverings become combustible. However, the Electrical and Electronic Manufacturers Association of Canada has suggested that all purchasers of PVC insulated / jacketed products be advised of the following:

- Non-metallic coverings of electrical cables can burn and may transmit fire when ignited.
- Burning non-metallic coverings may emit acid gases which are toxic and may generate dense smoke.
- Emission of acid gases may corrode metal in the vicinity e.g. sensitive instruments and reinforcing rods in cement.

The installer and/or user assumes all liability for the consequences of the installation and/or use of any of the products in violation of any applicable law, regulation, or code.

## Instrumentation

**Conductors** - Class B concentric seven stranded soft annealed bare or tinned copper.

**Insulation** - Polyvinyl Chloride (PVC) in accordance with CSA Standards C22.2 No. 239 and C22.2 No. 75.

**Individual Shield** - Aluminum foil-polyester tape with seven strand tinned copper drain wire for each pair or triad.

**Overall Shield** - Aluminum foil-polyester tape with seven strand tinned copper drain wire.

**Jacket** - A low temperature (-40°C), flame-retardant, moisture and sun resistant PVC FT4 Jacket. A nylon ripcord is included for jacket removal.

**Armour** - CSA certified interlocking aluminum armour is applied over the jacket. Suitable for use in Hazardous Locations in accordance with CSA 22.2 No. 174.

**Outer Jacket Over Armour** - Low temperature (-40°C), flame-retardant, moisture and sunlight resistant PVC jacket. Applied over the armour.

### Colour Code

- Pairs are black, white and alpha numeric coded
- Triads are black, white, red and alpha numeric coded

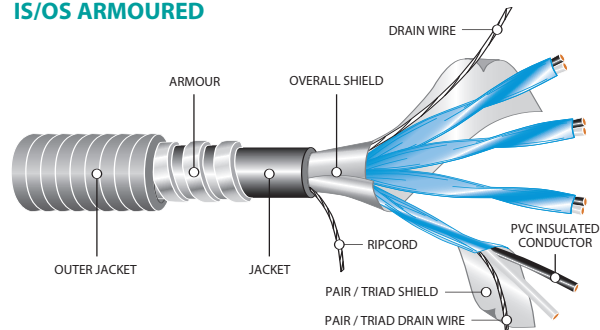
### Options

- Voltage: 150V
- Cross-linked polyethylene (XLPE) insulation
- Galvanized steel interlocked armour (GSIA) for 16AWG, 18AWG and 20AWG instrumentation cable
- Non-shielded or overall shielded cables available upon request
- Coloured outer jacket
- Other constructions available upon request

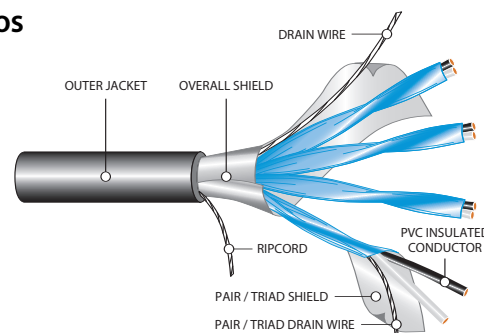
### Accessories

- Non-hazardous armoured cable connectors
- Explosion proof (hazardous location) connectors

IS/OS ARMoured



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## Armoured Control

**Conductors** - Class B concentric seven stranded soft annealed bare or tinned copper.

**Insulation** - Cross-linked polyethylene (XLPE) in accordance with CSA standards C22.2 No. 239 and C22.2 No. 38.

**Bonding (Ground) Conductor** - Class B concentric seven stranded soft annealed bare tinned copper conductor.

**Jacket** - A low temperature (-40°C), flame-retardant, moisture and sun resistant PVC Jacket.

**Armour** - CSA certified interlocking aluminum armour is applied over the inner jacket. Suitable for use in Hazardous Locations in accordance with CSA 22.2 No. 174.

**Outer Jacket** - A low temperature (-40°C), flame-retardant, moisture and sunlight resistant PVC jacket is applied over the armour.

**Colour Code** - Conductor #1 is white, the remaining conductors are black and numbered.

### Options

- Voltage: 300V
- 18AWG conductors
- Galvanized steel interlocked armour (GSIA)
- Unarmoured cables available
- Shielded cables available upon request
- Coloured outer jacket
- Other constructions available upon request

### Accessories

- Non-hazardous armoured cable connectors
- Explosion proof (hazardous location) connectors

